

Abstract of the Disclosure

A method of forming a PGO thin film on a high-k dielectric includes preparing a silicon substrate, including forming a high-k gate oxide layer thereon; patterning the high-k gate oxide; annealing the substrate in a first annealing step; placing the substrate in a MOCVD chamber; depositing a PGO thin film by injecting a PGO precursor into the MOCVD chamber; and annealing the structure having a PGO thin film on a high-k gate oxide in a second annealing step.

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